



September 10, 2014

Steve Pamperin, City Planner
City of Charleston
520 Jackson Ave.
Charleston, IL 61920

Re: Lincoln Elementary School Monitoring
Madison Ave
Charleston, IL 61920

Dear Mr. Pamperin,

On Wednesday, September 3, 2014 access was granted to the property and permission given to inspect the inside of the vacant Lincoln Elementary School building on Madison Ave. The inspection team included myself, several representatives from the City of Charleston, and Lee Austif of Triple A Asbestos Services, Inc. The purpose was to determine what areas of the structure were safe and which areas were not safe to access, so that Lee could evaluate the removal of all materials containing asbestos. We were also looking to evaluate the overall extent of the deterioration of the structure.

Description of Existing Structure:

The structure is a two and half story school building that has been vacant for a number of years. It is located on the east side of Division Street between Madison Avenue and Monroe Avenue. Along the entire south side of the property is a concrete retaining wall that is eight to eleven feet in height. Along the west and east sides of the property the grade slopes up from the south to north and the retaining walls on each side taper accordingly.

The roof system is comprised of wood joists spanning north to south. The second floor system has a center concrete slab supporting the hall and classrooms on either side are supported by wood joists spanning north to south. The first floor is constructed in the same manner. The basement is composed of a concrete slab on grade, and the exterior load bearing walls are masonry. There is a stair case that runs from the basement to the second floor in both the east and west ends of the building.

Observations:

Upon entering the building it was quickly apparent that the roof system has been failing for quite some time because there is moisture on all floors of the building. The ceiling/floor assemblies on all levels showed a significant amount of deterioration and water damage, and there was a strong odor of mold and mildew inside.

The south side of the building displayed more deterioration and water damage to the structural framing members than the north side. Several areas of the first and second floors on the south side were sagging and had piles of debris from the roof and ceiling assemblies above. The floor sheathing in several areas was not safe to walk on and should be avoided (Figures 1, 2, and 3). In numerous locations the lath and plaster ceiling system is failing and falling on the floor below (Figures 4 and 5). We did not get close enough to the structural wood floor joists to determine the number of damaged joists or the extent of the damage, but it is safe to assume that several of the members are weakened from rot. The north side classrooms were in better condition but still had significant moisture damage.

From the second floor we could see that the opening in the roof extends to the interior load bearing wall that forms the south side of the center hall way (Figure 6). Several of the joists have snapped due to a combination of deterioration and possibly overloading due to water ponding in this location on the roof. From the picture, it can be seen that the wood roof joists were seated in pocks in the exterior load bearing masonry wall.

From both the east and west stairwells on each end of the building, it can be readily seen that the end masonry walls are separating from the interior walls and framing (Figures 7 and 8). In the east end stairwell the interior wall has a large crack in the top where the end wall frames in to the roof and wall forming the stairwell. Similarly, in the west end stairwell a gap can be seen between the end wall and roof framing at the top.

Recommendations:

From the inspection it is apparent that the deterioration is through the entire building and not confined to any particular floor or area. Moisture damage and wet moldy floors can be found on every level in the classrooms on both the north and south sides. The south side of the building displays the largest damage and possesses the greatest threat to safety with several areas that could not be inspected closely due to sagging of the floor joists and sheathing. Adding to this safety issue is the fact that the masonry parapet has fallen over and is support by the roof directly above several of these areas of extreme deterioration along the south wall.

The roof opening poses several hazards to future inspections and the public because the masonry wall on the south side where the roof has collapsed is no longer braced by the roof framing system. Additionally the debris from the roof collapse is supported by the second floor which will continue to deteriorate more quickly with the roof opening.

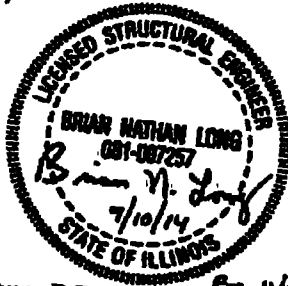
It is recommended that the cracking in the east and west end stairwells be monitored to determine if these walls are falling away from the building. The east end wall poses a serious threat to the garage and residence adjacent to it.

Access to the site and the building should continue to be limited. Additional temporary fencing should be placed on the east side of the property to keep the public off of the site. Any further inspections of the building should limit access to the south classrooms due to the extreme amount of deterioration and sagging in the joists and floor sheathing. If access to these areas is needed, it is recommended that an appropriate shoring plan be established to support the existing joists and cover the rotted floor sheathing. I would recommend that we continue to monitor the structure monthly until a timeline is established for demolition.

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Sincerely,



Brian N. Long, P.E., S.E. Exp. 11/30/14
Structural Project Engineer

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Figure 1 – Debris and moisture damage on second floor.



Figure 2 – Debris and moisture damage on first floor.

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Figure 3 – Debris and moisture damage in basement.

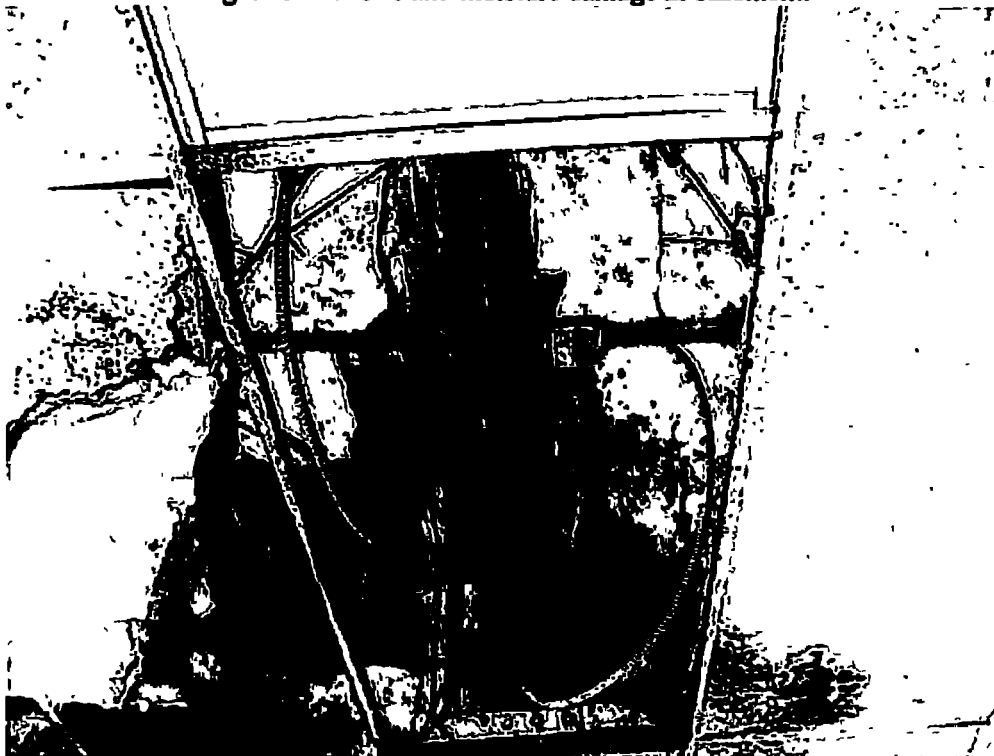


Figure 4 – Lath and plaster ceiling deterioration, typical of several locations on all floors.

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Figure 5 – Basement ceiling deterioration in southwest corner of structure.



Figure 6 – Roof opening on south side.

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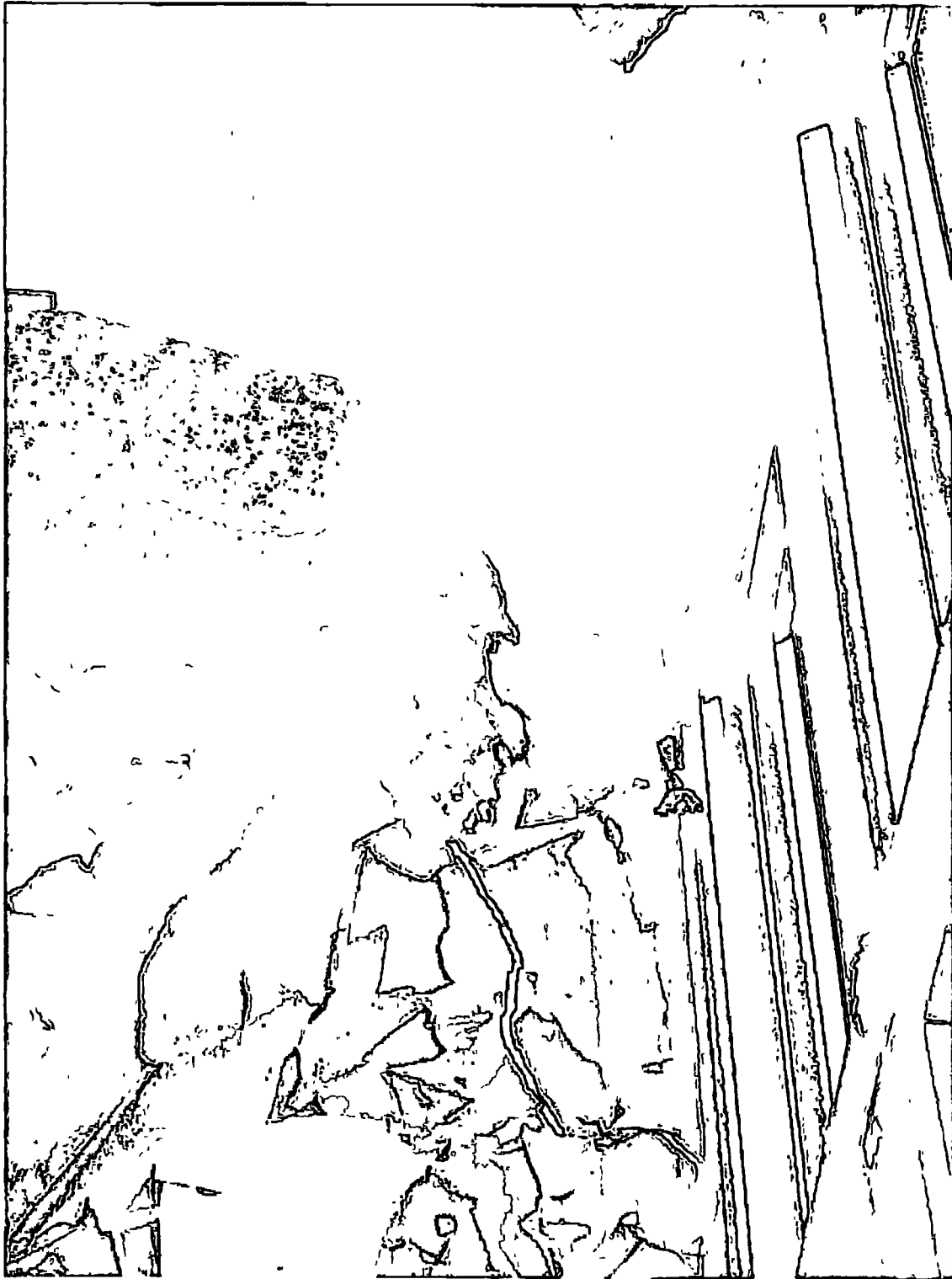


Figure 7 – View in east end stairwell of end wall pulling away from the building.

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Figure 8 – View in west end stairwell of end wall pulling away from building.

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